

## **ABSTRACT**

A method and apparatus for transmitting/receiving a differential space-time block code (STBC) by estimating only channel power in a wireless communication system using a plurality of transmission antennas. A receiver for  
5 receiving information symbols encoded by a differential STBC before and decoding the received information symbols collects a signal received at a reception antenna from a plurality of transmission antennas for one block duration; calculates a substitution signal by multiplying the received signal by a signal received for a previous block duration; estimates channel power for a  
10 channel from the plurality of transmission antennas to the reception antenna; normalizes the estimated channel power with a normalization value determined as a size of previously received symbols; and calculates information symbols by dividing the substitution signal by the normalized channel power.